CLAIMS

What is claimed:

1. An alternating current electrical motor, comprising at least a single phase or a multiphase motor with at least three phases or a synchronous generator with at least two poles or more, having main primary windings and de-saturation secondary additional windings, in which each additional winding is fed through one or multiple capacitors, said each additional winding is fed through one or multiple capacitors in opposite phase angle and opposite field directions from said each respective main winding, the total cross-section of the wire sizes used on each said main winding and each said additional winding are of predetermined dimensions.

2. The electric motor as claimed in claim 1, wherein the total cross-section of the wire size used on each said main winding and each said additional winding follows the respective ratio of approximately 2/3 for said main winding and approximately 1/3 for said additional winding.

3. The alternative current electric motor as claimed in claim 1, wherein the value of Micro Farads of the capacitors per phase that feed the additional winding, is directly proportional of the actual full load current in Ampere consumed by said electric motor, or produced by said synchronous generator, reverse proportional of the square of the line voltage, and corresponding to a multiplying factor, with the multiplying factor in the range approximately 0.250×10^6 and 0.300×10^6.

4. A winding process of alternating current electric motor wherein two of said motor windings being built at one time in one only operation, as a single step.

5. A process for the calculation of additional winding capacitor value of an alternating current electric motor, as claimed in claim 1 so as to apply a formula in which the

capacitive value in Micro Fared is directly proportional of the actual full load current in Amperes consumed by said electric motor, or produced by said synchronous generator, reverse proportional of the square of the line voltage and affected by a multiplying factor being in the range between approximately 0.250×10^6 and 0.300×10^6.

6. A single phase electric motor comprising:

(a) first and second main windings coupled to a main common point and first and second potential lines of a line voltage; and,

(b) first and second additional windings coupled to a winding capacitor and the first and second potential lines in a parallel connection with the first and second main windings, each of the first and second additional windings generating a field in opposite direction with a corresponding one of the first and second main windings.

7. The electric motor of claim 6 wherein each of the first and second main windings has a main wire size and each of the first and second additional windings has an additional wire size.

8. The electric motor of claim 7 wherein the main wire size is approximately twice the additional wire size.

9. The electric motor of claim 6 wherein the winding capacitor having a capacitance directly proportional to a full load current, reversely proportional to a square of the line voltage, and having a multiplying factor.

10. The electric motor of claim 9 wherein the multiplying factor is approximately between 0.250×10^6 and 0.300×10^6.

11. A multiphase electric motor or synchronous generator comprising:

(a) a plurality of main windings connected in delta configuration at three line connection points having a line voltage, each of the main windings having a main wire size; and,

(b) a plurality of segments connected in parallel with the plurality of the main windings, each segment including an additional winding and a winding capacitor, the additional winding having an additional wire size and a phase different than and generating a field in opposite direction with a corresponding one of the main windings.

12. The electric motor or synchronous generator of claim 11 wherein the main wire size is approximately twice the additional wire size.

13. The electric motor or synchronous generator of claim 11 wherein the winding capacitor having a capacitance directly proportional to a full load current, reversely proportional to a square of the line voltage, and having a multiplying factor.

14. The electric motor or synchronous generator of claim 13 wherein the multiplying factor is approximately between 0.250×10^6 and 0.300×10^6.

15. A multiphase electric motor or synchronous generator comprising:

(a) a plurality of main windings connected in a star configuration at three line connection points having a line voltage, each of the main windings having a main wire size; and,

(b) a plurality of segments connected in parallel with the plurality of the main windings, each segment including an additional winding and a winding capacitor, the additional winding having an additional wire size and a phase different than and generating a field in opposite direction with a corresponding one of the main windings.

16. The electric motor or synchronous generator of claim 15 wherein the main wire size is approximately twice the additional wire size.

17. The electric motor or synchronous generator of claim 15 wherein the capacitor winding, having a capacitance directly proportional to a full load current, reversibe proportional to a square of the line voltage, and having a multiplying factor.

18. The electric motor or synchronous generator of claim 17 wherein the multiplying factor is approximately between 0.250×10^6 and 0.300×10^6.

19. A method of construction of a single phase electric motor or synchronous generator characterized by the steps of:

(a) first and second main windings being coupled to a main common point and first and second potential lines of a line voltage; and,

(b) first and second additional windings being coupled to a winding capacitor and the first and second potential lines in a parallel connection with the first and second main windings, each of the first and second additional windings generating a field in opposite directions with a corresponding one of the first and second main windings.

20. The method of construction as claimed in claim 19, characterized by the main wire size being approximately twice the additional wire size.

21. A method of construction of a multiphase electric motor or synchronous generator, characterized by the steps of:

(a) a plurality of main windings being connected in delta configuration at three line connection points having a line voltage, each of the main windings having a main wire size; and,

(b) a plurality of segments being in parallel with a plurality of the main windings, each segment including an additional winding and a winding capacitor, the additional winding having an additional wire size and a phase different than and generating a field in opposite direction with a corresponding one of the main windings.

22. The method of construction as claim in claim 21, characterized by the main wire size being approximately twice the wire size.

23. An alternating current electric motor, single phase or multiphase with at least three phases or synchronous generator with two poles or more, including main windings and de-saturation additional windings, in which each additional winding being fed through at least one or more multiple capacitors wherein each additional winding is fed through one or more multiple capacitors in opposite phase angle and opposite field directions from each respective main winding.